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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,462	12/26/2001	David P. Bour	D/99241QD	4171

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EXAMINER

MULPURI, SAVITRI

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/025,462

Applicant(s)
Bour et al

Examiner
Savitri Mulpuri

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Dec 26, 2001
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-19 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11, 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka ((JP 09-139543) or Abe et al (5,559,819) or Hayashi (US 6,319,742) or Morita (US 6,232,623

Tanaka teaches ridge structure containing lower cladding layer, active layer, and upper cladding layer and laterally forming buried layer "9" with opening on the top of the ridge and covering the opening with second buried layer "10".

Abe teaches lower cladding active layer and upper cladding ridge structure, laterally growing buried layer "9" with opening on the top of the ridge and growing second buried layer "10".(see fig.1 and related description.

Hayashi and Morita also discloses forming ridge from cladding layer and active layer, laterally growing buried layer and forming second buried layer contact the ridge see Hayshi see fig. 6 and see Morita fig.1).

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11,14, 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by

Kume et al US 5,923,690..

Kume et al discloses forming light emitting device cladding layer 1214, active layer 1215 and upper cladding layer 1216 and growing p- AlGa_N 1217a and n-AlGa_N layer 1217b on the lateral sides of the ridge and forming top AlGa_N p-AlGa_N layer 1218 on the top of the ridge and n-AlGa_N 1217b.

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 11, 14,16 -18 are rejected under 35 U.S.C. 102(e) as being anticipated by Jie et al (US 6,287,884).

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Jie et al teaches forming index-guided light emitting device by forming a ridge structure form lower cladding structure and multi quantum well active layer and upper cladding layer; forming lateral sides with p InP layer and N-InP layer "8,9" with opening on the top of ridge structure and forming additional P-InP layer "10" covering the top of the ridge and N-InP layer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kume et al in combination with Takhashi et al (US4,750,183)

Kume et al does not teach bottom cladding layer is superlattice layer cladding layer and bulk cladding layer "25,26". It would have been obvious to one of ordinary skill in the art to form

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cladding layer structure containing superlattice and bulk layer in the invention of Kume et al to confine the light in the active layer(see Takhashi col. 4, lines 16-21).

Claims 13, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kume et al in combination with Horino (JP 09-186404).

Tanaka discloses forming ridge structure oriented in <1100> crystallographic direction. It would have been obvious to modify the Kume et al forming ridge structure <1100> direction for the benefit of wafer dicing.

Claims 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kume et al in combination with Bour et al (US 5,509,024).

Bour et al teaches forming tunnel barrier layer adjoining multiple quantum structure. It would have been obvious to one of ordinary skill in the art to form barrier layer to reduce leakage current.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Mulpuri whose telephone number is 703-305-5184. The examiner can normally be reached on Mon-Fri from 8 to 4.40.p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached on (703) 308-3325. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-08-0956..

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SAVITRI MULPURI
PRIMARY EXAMINER